## REMARKS

Reconsideration and further examination of the application, as amended, are respectfully requested. All objections and rejections are traversed.

In the Office Action, claims 13-16, 18, 20, 21, 31, 32 and 41 were rejected under 35 U.S.C. §103 based solely on U.S. Patent No. 6,219,734 to Wallach et al. ("Wallach"). Claims 17, 19, 22-25, 33 and 37-40 were rejected under §103 based on Wallach in view of U.S. Patent No. 6,243,778 to Fung et al. ("Fung"). Claims 26-28 and 34 were rejected under §103 based on Wallach in view of U.S. Patent No. 6,085,294 to Van Doren et al. ("Van Doren 294"). Claims 29, 30, 35 and 36 were rejected under §103 based on Wallach in view of Van Doren 294 and U.S. Patent No. 6,085,276 to Van Doren et al. ("Van Doren 276").

Applicants have amended claim 14 to provide proper antecedent basis to the term "resources". No new matter is being introduced.

Claims 13-31

Independent claim 13 recites, in relevant part, as follows:

"A method for programmably allocating resources to accommodate I/O transactions at I/O ports of a multiprocessor computer system comprising:"

"determining the number of devices being serviced via the ports", and

"setting criteria **for transactions** at the port **with respect to <u>the number of devices</u>**".

That is, what Applicants are claiming here is the <u>setting of criteria for transactions</u> at a port such that the criteria being set depend upon <u>the number of devices</u> being serviced by the port. Wallach provides no such teaching or suggestion.

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The Office Action at p. 2 cites to Col. 10, lines 57-61 of Wallach as disclosing Applicants' claimed setting of criteria for transactions at a port. Applicants respectfully disagree that this excerpt of Wallach provides such a teaching or suggestion. In its entirety, the cited portion of Wallach states that:

> Once an adapter 310 is added to the computer system, system resources must be allocated for the adapter 310. The configuration manager 500 then configures the newly added adapter 310 (state 604) by writing information to the adapter's configuration space registers.

As shown, this excerpt from Wallach, which the Office Action relies upon in rejecting claim 13, provides no teaching or suggesting whatsoever for the setting of criteria <u>for</u> <u>transactions</u> at a port, and obviously no teaching in which those criteria depend upon the number of devices that have been determined to be serviced by the port. In fact, Wallach fails to provide any discussion at all regarding transactions, let alone the setting of criteria for any transactions. Instead, this excerpt simply discloses that Wallach's configuration manager 500, in order to configure an adapter newly added to the computer system, writes information to registers disposed on the adapter.

Because Wallach fails to provide any teaching or suggestion for setting criteria <u>for</u> <u>transactions</u> as claimed, the rejection of claim 13 should be withdrawn. See MPEP §2143.03 ("To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.") As shown, Wallach fails to meet this requirement. Claims 14, 17 and 18, moreover, all depend from claim 13, and are thus in condition for allowance as well.

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The rejection of independent claims 15 and 21, also based solely on Wallach, should likewise be withdrawn.

More specifically, claim 15 recites, in relevant part, as follows:

"A system for programmably allocating resources to accommodate I/O transactions at I/O ports of a multiprocessor computer system, the system comprising:"

"means for determining the number of devices being serviced via a port", and

"means for setting criteria **for transactions** at the port **with respect to the number of devices**".

In addition, claim 21 recites, in relevant part, as follows:

"A method for programmably allocating resources for processing Input/Output (I/O) transactions at a plurality of I/O ports of an I/O bridge, the method comprising:"

"identifying the number of I/O devices being serviced by at least one I/O port", and

"setting criteria for the transactions at the at least one I/O port with respect to the number of I/O devices being serviced by the port".

For the reasons set forth above in connection with claim 13, Wallach fails to teach or suggest Applicants' claimed "means for setting criteria <u>for transactions</u> at the port <u>with respect to the number of devices</u>" as recited in claim 15, or the claimed "setting criteria for the transactions at the least one I/O port with respect to the number of I/O devices being serviced by the port" as recited in claim 21. Therefore, the rejection of claims 15 and 21 should be withdrawn. Furthermore, claims 16, 19 and 20 depend from claim 15, and claims 22-31 depend from claim 21. Thus, these claims too are in condition for allowance.

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Claims 32-41

Claim 32, in its entirety, recites as follows:

"An Input/Output (I/O) bridge for use in a computer system having a plurality of processors, the I/O bridge comprising:"

"a plurality of I/O ports, each I/O port configured to communicate with at least one I/O device that generates or receives transactions;"

"resources for use in servicing the transactions of the I/O devices; and"

"programmable logic configured and arranged to assign the resources among the I/O ports in response to the number of I/O devices with which the I/O ports are communicating."

As shown, claim 32, among other things, recites programmable logic disposed at an I/O bridge that is configured to assign resources among I/O ports on the basis of the number of I/O devices with which the I/O ports are communicating. That is, rather than share resources equally, for example, Applicants' I/O bridge assigns resources among the ports as a function of the number of I/O devices communicating with those ports. Wallach provides no such teaching or suggestion.

The Office Action cites to Col. 9, lines 15-23 of Wallach as teaching Applicants' claimed "programmable logic configured and arranged to assign the resources among the I/O ports in response to the number of I/O devices with which the I/O ports are communicating". In its entirety, this excerpt from Wallach states as follows:

A configuration manager 500 is responsible for managing all or some of the adapters on the PC buses 234 and 236 (FIG. 2), or 250, 252, 254 and 256 (FIG. 3). The configuration manager 500 keeps track of the configuration information for every managed adapter located on the fault tolerant computer system 100. **The configuration manager 500 also allocates resources for every managed** adapter and initializes each managed adapter's registers during a hot swap operation.

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As shown, Wallach discloses a configuration manager 500 that allocates resources to adapters. This is not, however, what Applicants are claiming. Applicants claim logic configured to assign resources among I/O ports as a function of the number of I/O devices with which the ports communicate and Wallach, for at least two reasons, provides no such teaching or suggestion.

First of all, the excerpt from Wallach provides no teaching or suggestion for assigning resources among I/O ports. Instead, the excerpt clearly states that Wallach's configuration manager 500 allocates resources to "managed adapters". I/O ports and adapters are entirely different from each other, especially where a single port may support multiple I/O devices. Second, Wallach provides no teaching or suggestion for assigning resources in response to the number of I/O devices with which the port communicates, as further claimed by the Applicants. Again, all Wallach teaches is the allocation of resources directly to adapters. In sum, Wallach provides no teaching or suggestion for (1) allocating resources to I/O ports, or (2) allocating resources as a function of the number of I/O devices to which the I/O port communicates. Because Wallach fails to provide such teachings, the rejection of claim 32 based on Wallach should be withdrawn.
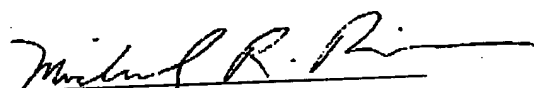
Claims 33-41 all depend from claim 32. Accordingly, these claims too are allowable.

Applicants submit that the application as amended is in condition for allowance and early favorable action is requested.

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Respectfully submitted,

Michael R. Reinemann
Reg. No. 38,280
(617) 951-2500

Send all correspondence to:

IP Administration Legal Department,
M/S 35
Hewlett-Packard Co.
P.O. Box 272400
Fort Collins, CO 80527-2400

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